REMARKS

The present amendment is in response to the Advisory Action mailed March 17, 2008, and supplements the previous Amendment And Reply Under 37 CFR §1.116 dated February 8, 2008 in response to the Final Office Action mailed October 19, 2007. The present amendment has been made based on the claims filed in the Amendment dated February 8, 2008, which was entered as indicated by the Examiner in the Advisory Action. Applicants respectfully request that the Examiner consider the present amendment and the following remarks as addressing the Advisory Action of March 17, 2008 and the remaining rejection set forth in the Final Office Action of October 19, 2007.

After entry of this amendment, claims 45 and 47-60 are pending. New claims 59 and 60 have been added. Claim 59 finds support in the specification at page 29, lines 11-13 and 16-18. Claim 60 finds support in the specification at page 4, lines 4-20. No new matter has been added.

Rejections Under 35 U.S.C. § 103

Claims 45 and 47-58 stand rejected under 35 U.S.C. § 103(a) as being obvious over Harper *et al.* (US 2002/0160378, hereinafter "Harper"), in view of Nykiforuk (US 6,552,250, hereinafter "Nykiforuk"), and further in view of Sowa (PNAS, 1998, 95: 10317-10321, hereinafter "Sowa"). Applicants respectfully disagree and traverse the rejection. Reconsideration is strongly urged for the following reasons.

To support a conclusion of *prima facie* obviousness, the prior art must disclose or suggest all the limitations of the claimed invention. See *In re Lowry*, 32 F.3d 1579, 1582 (Fed. Cir. 1994).

The Examiner maintains the position that Harper teaches Class I and Class II non-symbiotic hemoglobins and the obviousness rejection is maintained for reasons of record. See Advisory Action at page 2. The Examiner, however, does not specifically address Applicants' arguments made to rebut the finding of obviousness in the Amendment dated February 8, 2008.

According to the Examiner, "Harper teaches a method (paragraph 166, 164, claim 29) for the production of starch and/or oil comprising growing a transformed plant (see paragraph 137, 164) that expresses at least one hemoglobin and recovering the starch and/or oil from said transformed plant, wherein the hemoglobin is derived from *Arabidopsis thaliana* (see paragraph

11), wherein the hemoglobin is expressed in a storage-organ-specific manner (see paragraph 99, 155 (potato)), wherein the hemoglobin is encoded by the nucleotide sequence as set forth in ...." Office Action dated October 19, 2007, at page 11. The Examiner acknowledges that Harper does not teach recovering the starch and/or oil. *Id.*

A closer review of Harper, particularly the references made by the Examiner regarding the specific teaching of Harper, indicates that, not only Harper fails to teach the recovering of starch and/or oil as acknowledged by the Examiner, **Harper also fails to teach production of starch and/or oil by overexpressing at least one hemoglobin in a plant**. As disclosed in the specification, the production of starch and/or oil by expressing at least one hemoglobin in a plant is a novel aspect of the present application which is clearly not taught or suggested by either Harper alone, or in combination with any other references cited by the Examiner.

Furthermore, as discussed in the Amendment dated February 8, 2008, Harper teaches clusters of genes that are regulated in response to a stress condition in plants, such as plant polynucleotides whose expression is altered in response to stress conditions. See paragraph [0011] of Harper. A cluster of stress-regulated genes includes at least 5, 10, 15, or 20 genes, or polynucleotide portions thereof, each of which is responsible to the same selected stress condition(s). See paragraph [0050] of Harper. In Harper, the expression profile of approximately 8,700 genes under stress conditions was analyzed by using microarray technology with Affimetrix GeneChip. See Example 1 at page 31 of Harper. Nonetheless, Harper does not teach or suggest that expression of any of these 8,700 genes would increase production of starch and/or oil. In fact, Harper does not even teach or suggest any potential morphological or physiological effect of overexpressing any one of these 8,700 genes in a plant. Thus, Harper teaches, at the most, a method of producing a transgenic plant comprising plant cells that exhibit altered responsiveness to at least one stress condition as claimed in claim 29 of Harper. Harper does not, however, teach or suggest starch and/or oil production by expressing hemoglobin in a plant as alleged by the Examiner. Furthermore, it is respectfully submitted that, it is the invention **as a whole**, and not some part of it, which must be obvious under 35 U.S.C.S. §103. *In re Antonie*, 559 F.2d 618, 619 (CCPA 1977). When the prior art does not reveal the property discovered by the applicant, as here, there is no basis to find obviousness. See *Id.*, at 620. Here, the production of starch and/or oil by the expression of a hemoglobin and the "recovering" step

specified in the claims would not have been obvious, since the reference does not suggest that levels of starch and/or oil would be increased in the transformed plant.

For at least the above reasons and the reasons stated in the Amendment dated February 8, 2008, Applicants respectfully submit that claims would not have been obvious to one skilled in the art over Harper, Sowa, and Nykiforuk, alone or in combination.

Reconsideration and withdrawal of the rejection is respectfully requested.

CONCLUSION

For at least the above reasons, Applicants respectfully request withdrawal of the rejections and allowance of the claims. If any outstanding issues remain, the Examiner is invited to telephone the undersigned at the number given below.

Accompanying this response is a Request for Continued Examination and a petition for a three-month extension of time to and including April 19, 2008 to respond to the Office Action mailed October 19, 2007 with the required fee authorization. No further fee is believed due. However, if any additional fee is due, the Director is hereby authorized to charge our Deposit Account No. 03-2775, under Order No. 13311-00008-US from which the undersigned is authorized to draw.

Respectfully submitted,

By_____

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